

## **REMARKS**

Applicants respectfully traverse and request reconsideration.

Applicants' attorney wishes to thank the Examiner for the courtesies extended during the telephone conference of March 12, 2009. During the conference, Applicants' attorney pointed out the three applications set forth in the Specification including the "unified shader" application which the Examiner noted may have been allowed. Applicants' attorney noted that the prior art in these cases and any office actions with respect to those cases should be evaluated by the examiner in connection with the pending claims. If requested, Applicants can submit copies of any materials that the Examiner desired. As also discussed, Applicants have amended the claims herein to include inherent subject matter related to the "unified shader".

Claims 1, 4, 7-9, 12, 14-17 and 20 and 22-26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,697,063 (Zhu) in view of Rosman et al. and Sperber et al. This is a new ground of rejection. The Zhu reference is directed to a single pipeline rendering system that uses screen space tiling (SST) in an attempt to eliminate memory bandwidth bottleneck due to frame buffer access and performs screen space tiling. The system uses a double z scheme that decouples the scan conversion/depth-buffer processing from the more general rasterization and shading processing through a scan/z engine. Also, FIG. 4 (cited by Examiner) appears to show a standard single shading system that is set forth with more particularity in FIG. 17. The office action alleges that Zhu teaches, among other things, that the shading engine 406 in FIG. 4 corresponds to the claimed "unified shader". Applicants respectfully submit that Zhu does not teach a unified shader as claimed but instead appears to describe a conventional shading structure that employs separate pixel color processing and separate texture address shading via the separate blocks 1713, 1708 and other blocks.

As set forth in paragraph 53 and elsewhere in the Specification, unlike Zhu, the claimed unified shader is operative to apply a program sequence of executable instructions to rasterized values and is operative to perform both color shading and/or texture shading. No such structure is set forth in the cited portion of the Zhu reference. Instead, the Zhu reference utilizes separate dedicated hardware blocks as shown to perform separate color and texture interpolation operations. Applicants have also added dependent claims. There is no loop back capability in Zhu for a programmable unified shader and Zhu does not employ programmable instruction based unified shading as claimed. Accordingly, Applicants respectfully submit that the independent claims and new dependent claims are in condition for allowance.

The dependent claims add additional novel and non-obvious subject matter.

Applicants respectfully submit that the claims are in condition for allowance and respectfully request that a timely Notice of Allowance be issued in this case. The Examiner is invited to contact the below-listed attorney if the Examiner believes that a telephone conference will advance the prosecution of this application.

Respectfully submitted,

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